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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,292	12/15/2003	John T. Petrick	TD14/09	3770

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Edward P. Dutkiewicz
640 Douglas Avenue
Dunedin, FL 34698

EXAMINER

HAN, JASON

ART UNIT PAPER NUMBER

2875

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,292	PETRICK, JOHN T.	
	Examiner	Art Unit	
	Jason M Han	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. Page 5, Fourth Paragraph: "The retainer ring ~~is~~ has a third internal";
 - b. Page 13, First Paragraph: "The retainer ring ~~is~~ has a third internal";
 - c. Page 14, Last Line: Correct the case for "IN";
 - d. Page 15, Line 5: "collect" should read as "collected";
 - e. Page 15, Line 13: "past" should read as "paste".

Appropriate correction is required.

Claim Objections

2. Claim 3 is objected to because of the following informalities: In line 6 of the claim, "a" should read as "an". Appropriate correction is required.
3. Claim 4 is objected to because of the following informalities: In line 3 of the claim, "boars" should read as "boards". Appropriate correction is required.
4. Claim 4 is further objected to because of the following informalities: In line 6 of the claim, "operative" should read as "operatically". Appropriate correction is required.
5. Claim 7 is objected to for not complying with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant's disclosure mentions, "an aircraft obstruction light, the output beam is a red color, covers 360 degrees azimuthally, and produces at least 32.5 candela over a 10-degree beam band centered between 4 and 20 degrees above a horizontal plane [Page 16, Lines 7-10]." However, the applicant claims new matter with a peak output in the range extending from 0 degrees to 50 degrees elevation. Please elucidate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipate by Theobald et al. (U.S. Patent 5567036).

Theobald discloses a clearance and side marker lamp having a mounting plate [Figures 1-2: (80)]; a plurality of thermally conductive circuit boards [Figures 1-2: (90)] in thermal contact with the mounting plate [Figures 1-2: (94)]; a plurality of light emitting diodes [Figures 1-2: (100)] electrically and thermally communicating with the circuit boards; an optical lens [Figures 1-2: (35)] formed as a translucent dome covering the circuit boards and light emitting diodes; a base [Figures 1-2: (25)] operatively coupled to the mounting plate and lens; and an external electrical source to provide power to the system [Figures 1-2: (40a, 40b)].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) in view of Glover et al. (U.S. Patent 6425678).

Verdes discloses an LED obstruction lamp that includes:

- a circular plate [Figure 3: (34)] with an upper surface and lower surface;
- a cylindrical portion [Figure 3: (35)] attached to the plate and a means for attaching at least one LED [Figure 3: (31)] on the side thereof;
- at least one light emitting diode [Figure 3: (31)] being coupled to the vertical portion of the cylinder with means to maximize heat transfer [Column 3, Lines 51-55];
- an optical lens [Figure 3: (11)] of a generally cylindrical configuration formed as a dome having a closed top end and a open bottom end that is configured to lie adjacent to the upper surface of the plate (it is obvious and commonly known that the lens is comprised of a transparent material for the purpose of illumination);
- a mounting base [Figure 3: (18)] of a generally cylindrical configuration with an open top part, a closed bottom part [Column 4, Line 42] and a side face there around, the top part having a lip adapted to lie adjacent the

Art Unit: 2875

lower surface of the plate with an aperture and flange extending from the mounting base;

- a plurality of rivets [Figure 3: (33)] adapted to couple together the plate and the base (though the rivets do not couple together the plate, base, and circuit boards together, it is obvious that the teaching of the reference is functionality equivalent);
- a retainer ring [Figure 3: (17)] adapted to couple together the lens and the mounting base (though the ring does not couple together the lens, plate, and base, it is obvious that the teaching of the reference is functionally equivalent); and
- an external electrical source operatively coupled to the system [Figure 4: (14-16)].

Verdes does not specifically teach the circular plate being thermally conductive, nor teach the cylindrical portion being made up of a plurality of thermally conductive L-shaped circuit boards. However, it should be noted that printed circuit boards are inherently thermally conductive via electrical conductivity.

Glover discloses a packaging system for thermally controlling the temperature of electronic equipment. Glover teaches an electronic module [Figure 1: (30)] having an L-shaped support member [Figure 1: (20)] with a circuit pack/printed circuit board, wherein the components [Figure 1: (14)] are electrically and thermally conductively attached. Glover further teaches the electronic modules connected to a heat spreading plate [Figure 1: (32)] to improve overall heat dissipation [Column 3, Lines 40-53].

It would have been obvious to modify the LED obstruction lamp of Verdes to incorporate the electronic module in communication with a heat spreading plate, as taught by Glover, so as to improve heat efficiency within the system, and thus, overall LED performance. It is also obvious that by breaking down the cylindrical portion of Verdes into the separate electronic modules of Glover would permit different orientations of the light, as commonly held in the art, as well as a means for simple maintenance with replacement modules.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Theobald et al. (U.S. Patent 5567036) as applied to Claim 2 above, and further in view of Verdes et al. (U.S. Patent 6425678).

Theobald teaches a clearance and side marker lamp with a base, as cited above.

Theobald does not specifically teach the base being generally cylindrical with an open top part, a closed bottom part and a side face there around, the top part having a lip adapted to lie adjacent the lower surface of the plate with an entrance aperture and flange extending from the mounting base.

Verdes teaches a mounting base [Figure 3: (18)] of a generally cylindrical configuration with an open top part, a closed bottom part [Column 4, Line 42] and a side face there around, the top part having a lip adapted to lie adjacent the lower surface of the plate with an entrance aperture and flange extending from the mounting base.

It would have been obvious to modify the lamp of Theobald to incorporate the mounting base of Verdes in order to provide greater heat convection within the system, thus improving heat efficiency and LED operation.

Art Unit: 2875

9. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) in view of Glover et al. (U.S. Patent 6425678).
10. With regards to Claim 4, Verdes discloses an LED obstruction lamp that includes:
- a mounting plate [Figure 3: (34)];
 - a cylindrical portion [Figure 3: (35)] attached to the plate;
 - at least one pair of light emitting diodes [Figure 3: (31)] being operatively coupled to the vertical portion of the cylinder wherein the diodes are adjacently disposed and electrically connected in a parallel circuit configuration [Column 4, Lines 3-5];
 - an optical lens [Figure 3: (11)] formed as a translucent dome and covering the circuit boards and light emitting diodes; and
 - an electrical power means providing a constant current to each light emitting diode pair [Figure 4: (14-16)].

Verdes does not specifically teach the cylindrical portion being made up of a plurality of thermally conductive circuit boards.

Glover discloses a packaging system for thermally controlling the temperature of electronic equipment. Glover teaches an electronic module [Figure 1: (30)] having an L-shaped support member [Figure 1: (20)] with a circuit pack/printed circuit board, wherein the components [Figure 1: (14)] are electrically and thermally conductively attached. Glover further teaches the electronic modules connected to a heat spreading plate [Figure 1: (32)] to improve overall heat dissipation [Column 3, Lines 40-53].

It is obvious that the cylindrical portion of Verdes functions similarly to a circuit board and could easily have been replaced as such, which the examiner considers a matter of design preference. It would have also been obvious to modify the LED obstruction lamp of Verdes to incorporate the electronic module (including circuit boards) in communication with a heat spreading plate, as taught by Glover, so as to improve heat efficiency within the system, and thus, overall LED performance.

11. With regards to Claim 5, Verdes teaches a mounting base [Figure 3: (18)] of a generally cylindrical configuration with an open top part, a closed bottom part [Column 4, Line 42] and a side face there around, the top part having a lip adapted to lie adjacent the lower surface of the plate with an entrance aperture and flange extending from the mounting base.

12. With regards to Claim 6, Verdes teaches an LED obstruction lamp with a cylindrical portion, as cited above, further having a plurality of pairs of light emitting diodes [Figure 3: (31)].

Verdes does not specifically teach the cylindrical portion comprising a plurality of conductive circuit boards, even though that is how the cylinder is seemingly depicted in Figure 3.

Glover discloses a packaging system for thermally controlling the temperature of electronic equipment. Glover teaches an electronic module [Figure 1: (30)] having an L-shaped support member [Figure 1: (20)] with a circuit pack/printed circuit board, wherein the components [Figure 1: (14)] are electrically and thermally conductively attached.

Art Unit: 2875

Glover further teaches the electronic modules connected to a heat spreading plate [Figure 1: (32)] to improve overall heat dissipation [Column 3, Lines 40-53].

It is obvious that by breaking down the cylindrical portion of Verdes into the separate electronic modules of Glover would permit different orientations of the light, as commonly held in the art, as well as a means for simple maintenance with replacement modules.

13. With regards to Claim 7, Verdes discloses an LED obstruction lamp, as cited above, and further teaches the lamp meeting the criteria prescribed in the FAA Circular 150/5345-43 [Column 3, Line 50].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references have been cited to further show the state of the art pertinent to the current application:

U.S. Patent 4085433 to Baranowski;

U.S. Patent 5237490 to Ferng;

U.S. Patent 5585783 to Hall;

U.S. Patent 5688042 to Madadi et al.;

U.S. Patent 5806965 to Deese;

U.S. Patent 5890794 to Abtahi et al.;

U.S. Patent 6099148 to Northrop et al.;

U.S. Patent 6483439 to Vukosic;

U.S. Patent 6507290 to Lodhie et al.;

U.S. Patent 6626557 to Taylor.


Art Unit: 2875

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH



JOHN ANTHONY WARD
PRIMARY EXAMINER